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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,681	04/13/2004	Shinobu Hirayama	HIRAYAMA3	3091
1444	7590	04/07/2005	EXAMINER	
BROWDY AND NEIMARK, P.L.L.C. 624 NINTH STREET, NW SUITE 300 WASHINGTON, DC 20001-5303			ADDISU, SARA	
			ART UNIT	PAPER NUMBER
			3722	

DATE MAILED: 04/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SP

Office Action Summary

Application No.

10/822,681

Applicant(s)

HIRAYAMA ET AL.

Examiner

Sara Addisu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) 1-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/13/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claim 12 is objected to because of the following informalities: Page 49 line 3, states "monitoring". It should be "monitor". Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding Claim 6, page 47, line 7, the phrase "Pseudo-instructions" is unclear as written. Further review of the Specification (page 14, line 22 & page 32, line 9) does not clarify the claimed subject matter. Regarding Claim 3, page 46, line 4, the statement "...set to a top acceleration or less..." is unclear as written.

Claim 11, line 3, recites the limitation "linear motor". There is insufficient antecedent basis for this limitation in the claim. Linear Motor is mentioned in Claim 2). For the purpose of this Examination, Examiner assumes that claim 11 is dependant on Claim 2.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2002-126907.

JP 2002-126907 teaches a high-speed NC machine. The application as claimed is capable of performing the claimed process.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 5, 7, and 10-12, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002-126907 in view of Watanabe et al. (U.S. Patent No. 4,893,971).

JP 2002-126907 teaches a high-speed NC machine tool having a work spindle supported for rotation on a headstock (moving in Z axis), a turner base fastened an X-

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axis table, a cutting tool mounted on slider that moves in the (Y-Z axis) and a workpiece positioned perpendicular to the Y-axis direction of the cutting tool (see figure 1).

JP 2002-126907 also teaches the X-axis table (slide 18) being arranged to move in reciprocation to the Z-axis direction (slide 17 and a driving means to force the slider reciprocation in the Y-axis direction), a magnet plate (20) and a linear scale (21) to detect/monitor the position of the turner base (see JP 2002-126907, Abstract).

However, JP 2002-126907 fails to teach the machine tool forming a curved surface by having predetermined slider acceleration and varying the rotation of the velocity of the work spindle in terms of the predetermined acceleration.

Watanabe et al. teaches a high-speed machine tool (20) that uses an NC processor to produce a curved wall or surface on a Workpiece (Col. 3, lines 21-28). The machine tool (20) has a work spindle (22A) that is supported for rotation on a headstock (22), tool holder (turner base) (23A) mounted on saddle (table) (23C) (see figure 1). Watanabe et al. also teaches servo motor (22B, 23D and 23E) and drive motor (23B) driving means. Furthermore, Watanabe et al. teaches synchronization of the different parts of the machine tool (e.g. by adjusting different stokes) (Col. 3, lines 48-57) as a result of a coordinate converter (11) that converts X-Y coordinates expressed by the NC processor to create an involute curve, to polar coordinate data followed by action carried out by split processing unit (11B) that will ultimately interpolate and optimize the trace of the movement (i.e. desired curved surface) (Col. 4, lines 6-21). Additionally, Watanabe et al. teaches the speed of the movement of the machining tool and/workpiece being multiplied by a predetermined coefficient (therefore the work

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spindle is rotated in terms of a predetermined acceleration) (Col. 6, lines 21-30).

Watanabe et al. also adds, speed sensors coupled with respective servo motors and position detectors whereby the speed of the tool holder block and spindle (22A) are monitored (Col. 6, 5-15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement on JP 2002-126907's invention, a control device as taught by Watanabe et al. for the purpose of producing a curved surface on a workpiece. The information processor (data creating unit) and control unit (NC unit) control the machine tool ('971, Col. 3, lines 67-68 and Col. 4, lines 1-5). This means the manipulation means of the predetermined movements of the machine tool are done outside of the tool and therefore the sequence of operation can be manipulated by tailoring it to a specific machine (e.g. synchronize the movement of the slider in the Y-axis direction of JP 2002-126907's tool with the X-axis table in the X-axis direction) and sensors coupled with servo motors can synchronize and determine the position of the different components of the tool to allow the movement to form the desired curved surface.

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2002-126907 in view of Watanabe et al. (U.S. Patent No. 4,893,971) and further in view of Siders et al. (U.S. Patent No. 6,568,990).

JP 2002-126907 and Watanabe et al. teach an NC process for generating a curved surface on a workpiece using NC processor, as set forth in the above rejection.

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However, both JP 2002-126907 and Watanabe et al. are silent about the curved surface being a toric surface and the curved surface being generated on being a spectacle lens.

Siders et al. teaches the manufacture of ophthalmic (spectacle) lenses having a computer (102) and CNC machining platform (104). Siders et al. also teaches the lenses (workpiece) as being a toric surface having meridian with major and minor radii that determine the tool path (Col. 21, lines 29-57).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use JP 2002-126907 tool with the NC processor, to produce a toric surface (i.e. spectacle lens) as taught by Siders et al. for the purpose of manufacturing a product that does not require complicated rotating or tilting of the workpiece (lens blank) (Col. 5, lines 13-17).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sara Addisu at (571) 272-6082. The examiner can normally be reached on 8:30 am - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached on (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Sara Addisu
(571)272-6082

A handwritten signature in black ink, consisting of a large, stylized 'D' followed by a series of loops and a horizontal stroke.

DERRIS H. BANKS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700